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December 14, 2004

Mary L. Cottrell, Secretary  
Department of Telecommunication and Energy  
One South Station, 2<sup>nd</sup> Floor  
Boston, MA 02202

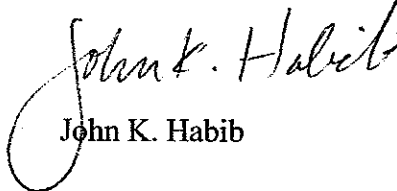
Re: City of Cambridge, D.T.E. 04-65

Dear Secretary Cottrell:

Enclosed please find the responses of Cambridge Electric Light Company d/b/a NSTAR Electric ("NSTAR Electric" or the "Company") to discovery questions asked in the above-referenced proceeding, as listed on the following Discovery Log.

Thank you for your attention to this matter.

Very truly yours,



John K. Habib

Enclosures

cc: John Shortsleeve, Esq.  
William Stevens, Hearing Officer  
Sean Hanley, Rates and Revenues Requirements  
James Byrnes, Rates and Revenues Requirements  
Mark Barrett, Rates and Revenues Requirements

# LOG OF RESPONSES FILED

D.T.E. 04-65

December 14, 2004

Response	Status	Attachments
City 1-1	Filed Herewith	Attachment City-1-1(a) SENT VIA E-MAIL Attachment City1-1-(b) SENT VIA E-MAIL
City 1-2		
City 1-3	Filed Herewith	Attachment City-1-3(a) BULK Attachment City-1-3(b)
City-1-4		
City-1-5	Filed Herewith	Attachment City-1-5
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Cambridge Electric Light Company  
Department of Telecommunications and Energy  
D.T.E. 04-65  
Information Request: **City 1-1**  
December 13, 2004  
Respondent: Christine L. Vaughan

Information Request City 1-1

Please provide Exhibits NSTAR-1 and NSTAR-2 in electronic spreadsheet form, including all formulae and links to other spreadsheets from which the Exhibits were prepared.

Response

Please refer to Attachment City-1-1(a) and Attachment City-1-1(b), which will be provided via e-mail along with this response.

Cambridge Electric Light Company  
Department of Telecommunications and Energy  
D.T.E. 04-65  
Information Request: **City 1-3**  
December 13, 2004  
Respondent: Christine L. Vaughan

Information Request City 1-3

Please provide the Company's most recent depreciation study and the supporting work papers related to streetlights.

Response

Please refer to Attachment City-1-3(a) **BULK** for the depreciation study submitted to the Department in D.P.U. 92-250, the Company's most recent base rate case. This attachment includes the complete depreciation study filed in that case, including testimony and supporting work papers. Please refer to Attachment City-1-3(b) for the portion of the Department's order in that case that relates to depreciation expense.



# The Commonwealth of Massachusetts

Att. City-1-3(b)

## DEPARTMENT OF PUBLIC UTILITIES

May 28, 1993

D.P.U. 92-250

Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in the following tariffs: M.D.P.U. Nos. 502 through 522 and 466, filed with the Department on November 16, 1992, to become effective December 1, 1992 by Cambridge Electric Light Company.

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individual components of a company's employee compensation package will be appropriately left to the discretion of the company's management.

To enable the Department to determine the reasonableness of a company's total employee compensation expenses, companies will be required to provide comparative analyses of their employee compensation expenses in future base-rate cases. Both current total compensation expense levels and proposed increases should be examined in relation to other New England investor-owned utilities and to companies in a utility's service territory which compete for similarly-skilled employees.

In addition, to the extent possible, companies will be required to provide productivity (i.e., output per worker-hour, or a similar index) comparisons. This will enable the Department to evaluate whether a higher-valued compensation package is associated with correspondingly higher productivity. If this association exists, the resulting unit-labor costs may be minimized, notwithstanding the higher compensation, thus benefiting ratepayers.

The Department will review the comparative analyses of both the employee compensation expenses and the productivity levels in our determination of the reasonableness of the total employee compensation expenses included in a company's cost-of-service.

**B. Depreciation Expense**

**1. The Company's Proposal**

During the test year, the Company booked \$3,585,653 in depreciation expense (Exh. CEL-9, Sch. 29, at 1). Cambridge proposed to increase its test year depreciation

expense by \$285,293 (*id.*).<sup>23</sup> The Company computed the adjustment by applying account-specific accrual rates to the test year-end depreciable plant (*id.*). In support of its proposed depreciation adjustment, the Company presented a depreciation study which used plant data as of December 31, 1991, and employed the remaining life method to estimate the proposed depreciation accrual rates (Exh. CEL-4, at 2).<sup>24</sup>

Cambridge used two approaches, one for location plant and one for mass plant, to determine average lives and average remaining lives ("ARL") for plant assets as of December 31, 1991 (*id.* at 4-5).<sup>25</sup> For location plant, Cambridge estimated a retirement date of 2008 for Kendall Station<sup>26</sup> and a demolition adder of \$1,829,600 consisting of two components: (1) net removal costs of \$660,000 on interim retirements (*i.e.*, plant items that will be retired prior to the deactivation of Kendall Station); and (2) an estimated demolition cost of \$1,169,600, or \$17.35 per KW, based on actual experience associated with the

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<sup>23</sup> During the test year, the Company booked \$3,632,628 in depreciation expense, using a 2.63 percent composite depreciation rate that was proposed and accepted as part of the settlement in Cambridge Electric Light Company, D.P.U. 89-109 (1989).

<sup>24</sup> The Company's depreciation study was performed by James H. Aikman, vice president/treasurer of Management Resources International (Exh. CEL-4, at 1-2).

<sup>25</sup> Location plant represents distinct equipment groups at a specified geographical location which will be retired at the same time, such as an electric generating station. Mass plant accounts represent differing property units with no specific location or directly-connected functional relationships, such as poles and meters (Exh. CEL-5, App. A at 4-6).

<sup>26</sup> The Company's Blackstone Street Station is fully depreciated; therefore, no accrual rates were developed for this facility (Exh. CEL-5, at IV-1; Tr. 11, at 12).

retirement of 18 similar power plants (Exhs. CEL-5, at IV-2; CEL-6, at 64; Tr. 11, at 31).<sup>27</sup> This resulted in a negative salvage value of nine percent for Kendall Station (id.).

For mass plant accounts (Transmission, Distribution, and General Plant), the Company applied actuarial analysis techniques to measure the historical average service lives (Exh. CEL-4, at 3). In the case of Account 370 (Meters), the Company had only recently developed actuarial data (Exh. CEL-5, at IV-11). Therefore, the Company determined that it had insufficient retirement experience on which to apply an actuarial analysis (id.). Therefore, Cambridge relied on simulated data to derive the service lives for these accounts (id.; Tr. 11, at 20).

Next, Cambridge compared the data to a set of Iowa curves<sup>28</sup> to determine average service lives ("ASLs") for each account (Exh. CEL-4, at 4). The Company then evaluated the resulting service lives and made adjustments where it deemed appropriate (id. at 6-7). From the resulting ASLs, Cambridge calculated depreciation rates.

Based on the results of its study, Cambridge summarized its proposed depreciation rates as follows:

Steam Production Plant	2.36 percent
Other Production Plant	1.54 percent
Transmission Plant	2.37 percent

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<sup>27</sup> The Company reported that its demolition adder was synonymous with negative net salvage value (Tr. 11, at 31).

<sup>28</sup> Iowa curves are frequency distribution curves initially developed in the 1930s at Iowa State University and widely accepted in determining average life frequencies. There are 28 different Iowa curves, each identified by their particular dispersion characteristics (Exhs. CEL-4, at 4; CEL-5, App. A at 10-11).

Distribution Plant	3.23 percent
General Plant	2.78 percent

Exh. CEL-5, Table 1.

While the Company's depreciation study data base was predicated on a year ending December 31, 1991, Cambridge applied the results of the study to its total utility plant as of June 30, 1992, claiming that updating the study to reflect test year-end plant investment would not have produced materially different results (*id.* at III-1). The Company proposed a total depreciation and amortization expense of \$3,917,921 (Exh. CEL-9, Sch. 29, at 3).

2. Positions of the Parties

a. The Attorney General

The Attorney General contends that many of the Company's recommended depreciation rates are supported by neither statistical analyses nor engineering judgment (Attorney General Brief at 59). Specifically, he argues that the Department should: (1) reject Cambridge's life span projections for its Kendall plant; (2) disallow the Company's request for a demolition cost adder; and (3) reject those proposed depreciation accrual rates that he contends are not supported by the record (*id.*). The Attorney General recommended that the results of the depreciation study be applied to the Company's December 31, 1991 plant balances instead of test year-end balances (*id.* at 63, n.67).

The Attorney General takes issue with the Company's use of a retirement date of 2008 for the Kendall Stations. First, the Attorney General notes that Cambridge's reported retirement date of 2008 for Kendall Station represents an estimate supplied by Company personnel (*id.* at 63). The Attorney General argues that this date is significantly shorter than

the date of 2018 used by the Company and Commonwealth Electric in their 1990 Long Range Forecast of Electric Power Needs and Requirements prepared for the Energy Facilities Siting Council ("EFSC")<sup>29</sup> (*id.* at 63-64, citing Exh. AG-124, Table 5). Moreover, the Attorney General observes that the Company's proposed deactivation date for Kendall Station is shorter than the "indefinite" status assigned in Com/Electric's April 15, 1992 Integrated Resource Management ("IRM") filing with the Department (Attorney General Brief at 64, citing Exh. AG-125, Table 4). The Attorney General infers that based on the IRM filing, Kendall Station would not be retired until the year 2023 at the earliest (*id.*).

The Attorney General objects to the proposed inclusion of \$1,200,000 in demolition costs with the salvage costs for the Kendall Station (*id.* at 65). The Attorney General contends that the demolition of this station is too remote in time to warrant inclusion of demolition costs, particularly given that the ultimate disposition of Kendall Station is speculative (*id.* at 65-66). To support this argument, the Attorney General notes that although the Company's Blackstone Station was fully depreciated several years ago, Cambridge is currently exploring the possibility of renovating a number of buildings at that facility (*id.* at 66). Moreover, the Attorney General claims that the addition of a demolition adder to Kendall Station suggests a unilateral determination by the Company with respect to future resource planning, in contravention of current resource planning practices and the Department's IRM process (*id.*).

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<sup>29</sup> The EFSC is now incorporated into the Department as the Energy Facilities Siting Board. For purposes of clarity, the Department will use the former name when referring to the 1990 study.

Regarding Cambridge's proposed depreciation rates for mass plant accounts, the Attorney General takes exception with the recommended service lives for certain accounts. The Attorney General argues that the Department has rejected arbitrary limits on data in depreciation studies (Attorney General Reply Brief at 37, citing Eastern Edison Company, D.P.U. 1130, at 17 (1982); Commonwealth Gas Company, D.P.U. 1120, at 42-43 (1982); Boston Gas Company, D.P.U. 1100, at 88 (1982)). The Attorney General acknowledges that, while the Company's data may suggest a change in salvage values, there is insufficient record evidence to support a change from currently approved values (Attorney General Brief at 68).

While the Attorney General urges the Department to examine closely all changes in salvage value since the Company's previous study, he focuses specifically on two accounts (Attorney General Reply Brief at 37). First, the Attorney General contends that in its review of Account 367 (Underground Conductors and Devices), the Company disregarded Department policy by improperly relying on only three years of net salvage data to substantiate its proposed increase in net salvage (Attorney General Brief at 68). Likewise, the Attorney General argues that the Company's proposed increase in salvage from zero percent to a negative fifteen percent for Accounts 370.71 and 370.72 (Meter Equipment and Installations) is based only on three years of experience during a time when large retirements were occurring as a consequence of the introduction of electronic meters (id. at 69). The Attorney General maintains that this is insufficient data to support a change in salvage values (id.).

b. The Company

Cambridge criticizes the Attorney General for his "mechanical" approach to the Company's depreciation study, and contrasts the Attorney General's "selective and simplistic" methods with the experience and judgment of its depreciation witness (Company Brief at 73-74). Cambridge maintains that Company personnel were consulted on the expected deactivation date of Kendall Station (id. at 80). The Company contends that its proposed accrual rate is based on the best estimate of service life and suggests that this may be a conservative estimate given the implementation of the federal Clean Air Act (Company Reply Brief at 33).

The Company argues that the planning analyses cited by the Attorney General are immaterial, because the retirement date provided in those reports goes beyond the planning period encompassed by the study, and was consistent with EFSC regulations in effect during that period (Company Brief at 81; Company Reply Brief at 34). Moreover, the Company contends that the 1990 EFSC filing predates the 1990 Amendments to the Clean Air Act, the final promulgation of IRM regulations, and the ongoing recession (Company Brief at 81). Cambridge asserts that these developments, which it claims result in shorter lives for older generating units, make it unlikely that the earlier retirement dates reported to the EFSC would continue to be applicable (id.).

Turning to the 1992 IRM filing, the Company first argues that the information relied on by the Attorney General is ambiguous (id. at 81-82). Furthermore, Cambridge argues that because additional capacity was not required until the year 2004, no full life extension and repowering analysis was provided in the filing (id.). Cambridge contends that under the

IRM regulations, this omission made the designation of a Kendall Station retirement date as "indefinite" the only appropriate one (id. at 82).

Addressing the demolition cost estimates for Kendall Station, the Company argues that the Attorney General has provided no evidence to suggest that the station could be renovated for any purpose (id.). Moreover, Cambridge reasons that it is unlikely that a generating plant would be permitted to remain in the Kendall Square area, claiming that the area is undergoing significant transformation (id.).

Regarding salvage values, Cambridge argues that there is no evidence that the values derived in its last rate case for this account are more reliable than more recent experience would indicate, because the previous study did not have account-specific retirement data available (Company Brief at 76; Company Reply Brief at 35). Furthermore, the Company contends that the Attorney General fails to address the engineering analysis underlying the Company's recommended salvage values (Company Brief at 76-77). Cambridge argues that the cases cited by the Attorney General are not applicable here, because those cases involved forced constraints on service lives, and were not related to salvage values (Company Reply Brief at 35).

In addressing specific accounts, Cambridge indicates that its actual experience with Account 367 for the past three years results in an average negative salvage value of 32 percent, and that it tempered the results of the actuarial analysis with well-founded engineering judgment (Company Brief at 76). Turning to the issue of the salvage values proposed for Account 370, Cambridge argues that there is no longer a positive salvage market for meters; it notes that during the past three years this account has experienced an

average negative salvage value of 42 percent (id. at 78). The Company contends that it took full consideration of the statistical analyses and engineering expertise in refining the results of the actuarial analysis (id. at 78-79). Finally, the Company argues that the Department should reject the Attorney General's attempt in his reply brief to challenge other salvage value calculations, as being raised too late in the proceedings (Company Reply Brief at 36).

3. Analysis and Findings

a. Standard of Review

Depreciation studies rely not only on statistical analysis but also on the judgment and expertise of the preparer. The Department has held that where a witness reaches a conclusion about a depreciation study which is at variance with that witness's engineering and statistical analysis, the Department will not accept such a conclusion absent sufficient justification on the record for such a departure. Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One at 54-55 (1991); Commonwealth Electric Company, D.P.U. 88-135/151, at 37 (1990). The Department will continue to look to the Company's expert witness for interpretation of the statistical studies presented but will continue to consider cross-examination and expert testimony to the contrary. D.P.U. 90-331, at 54. It is also necessary to go beyond the numbers presented in a depreciation study and consider the underlying physical assets. Berkshire Gas Company, D.P.U. 905, at 13-15 (1982); Massachusetts Electric Company, D.P.U. 200, at 21 (1980).

In keeping with this precedent, we will now review those instances in which the Company indicated that the proposed accrual rates differed from the results of the engineering and statistical studies. Such an examination necessitates review of the forecast

analysis used for Kendall Station, the simulated plant record analyses used for Account 370, the actuarial life analyses, and the salvage values/cost of removal analyses.

b. Kendall Station

The Company's depreciation study is premised on a deactivation date of 2008 for Kendall Station (Exh. CEL-5, at IV-2). Conversely, the 1990 EFSC filing reports a retirement date of 2018 for Kendall Station (Exh. AG-124, Table 5). Therefore, the Department must determine the appropriate retirement date. As an initial matter, the Department concurs with the Company that because no life extension analyses were provided in the 1992 IRM filing, it was appropriate for Cambridge to assign an indefinite deactivation date to Kendall Station as part of the IRM filing. See 220 C.M.R. 10.03(9)(b). Accordingly, the Department will not consider the Attorney General's extrapolation from the IRM filing of a 2023 retirement date for Kendall Station in its review.

No final order concerning the Company's 1990 EFSC filing was issued by the EFSC, and thus the filing made in that proceeding provides no factual basis on which to determine the validity of the retirement date of 2018. As a result, the Department finds that the Attorney General has failed to sustain his argument that Kendall Station will be retired in the year 2018. In deriving its depreciation accrual rate for Kendall Station, the Company furnished its depreciation witness with a projected deactivation date of 2008, based on Cambridge's estimated life for Kendall Station (Exh. CEL-5, at IV-1). Accordingly, the Department accepts the proposed retirement date of 2008 for Kendall Station.

It is appropriate, however, for the Department to further comment on the issue of retirement dates for generating plant presented by utilities in their IRM filings. If a utility's

supply forecast analyses are to be relied upon, it is necessary that the forecasted retirement dates for generating plant coincide with the anticipated retirement date used for depreciation accruals. Accordingly, the Department directs utilities to determine the service lives of their generating facilities presented in their IRM filings in a manner consistent with the analysis used to determine the service lives of these plants for depreciation purposes.

Concerning the Company's use of a demolition adder, the Department considers a demolition adder to be identical to negative net salvage value. The determination of Kendall Station's salvage value is open to subjective analysis because the cost to demolish or retire the facility cannot be known until the actual event occurs. Therefore, the Department has accepted the use of estimates in calculating the salvage value associated with specific location plant. Boston Edison Company, D.P.U. 1720, at 44 (1984); Boston Edison Company, D.P.U. 1350, at 109 (1983). The Department finds that the Company has made a reasonable effort to develop the cost of demolition for Kendall Station (Exh. CEL-6, at 64; Tr. 11, at 48-51). Accordingly, the Department accepts Cambridge's proposed demolition estimate for Kendall Station.

c. Mass Plant Account Salvage Values

Unlike the Company's ASL and dispersion curve calculations, the selection of salvage values is more subjective. This is because salvage values are theoretically intended to reflect some future market price, which cannot be known until the actual retirement occurs (Exh. CEL-5, App. A at 43). Whenever there is insufficient data regarding salvage values, it is necessary to exercise reasoned judgment in the determination of salvage values. D.P.U. 1350, at 109. Accordingly, the Department shall examine the judgment and

expertise relied on by Cambridge in determining the salvage values applied in its depreciation study.

i. Account 361 (Distribution Structures and Improvements)

The Company proposed a 40-year ASL and R 3.0 dispersion curve for this account, as well as a net salvage value of negative 15 percent (Exhs. CEL-5, at IV-6; CEL-6, at 69). As a result, Cambridge proposed an accrual rate for this account of 2.86 percent (Exh. CEL-5, at IV-6).

The results of the salvage studies performed by the Company indicated a negative 39.42 percent salvage value (Exh. CEL-6, at 67). The notes provided as part of the study demonstrate that the Company's recent limited experience with this account may not produce a reliable salvage value calculation (*id.*). The Department finds that the Company has failed to substantiate that a change in salvage values for this account is justified. Accordingly, Cambridge is directed to retain the existing salvage value of negative 10 percent for this account. This results in an accrual rate of 2.68 percent.

ii. Account 366 (Underground Conduit)

Besides changing the ASL and dispersion curve for Account 366.71 (Underground Conduit, General), the Company proposed to revise the salvage values for both Account 366.71 and Account 366.72 (Underground Conduit, Transformer Pads), from a negative five percent to a negative 15 percent (Exhs. CEL-5, at IV-8; CEL-6, at 67). This produced an accrual rate of 2.27 percent for Account 366.71 and 3.27 percent for Account 366.72 (*id.* Sch. 1).

The results of the salvage studies performed by the Company indicated a negative

733.77 percent salvage value (Exh. CEL-6, at 67). The record demonstrates that considerable costs are incurred in removing conduit (*id.*). The Department finds that the Company has properly interpreted the results of its statistical analysis and has exercised reasoned engineering judgment. Accordingly, the Department accepts the proposed accrual rate for Account 366.71.

However, because virtually all of Account 366.72 is composed of newer equipment, there is no history of retirements for this account (Exh. CEL-5, at IV-8). Accordingly, the Department finds no basis on which a salvage value change is warranted for this account. The Company is directed to maintain a negative salvage value of five percent for this account, producing an accrual rate for Account 366.72 of 2.96 percent.

iii. Account 367 (Underground Conductors and Devices)

The Company proposed to retain the current ASL and dispersion curve for this account but advocated reducing the net salvage value from a negative 10 percent to a negative 20 percent based on the Company's experience and judgment (Exh. CEL-5, at IV-8). As a result, Cambridge proposed a depreciation accrual rate for this account of 3.31 percent (*id.*).

The results of the salvage studies performed by the Company indicated a negative 32.06 percent salvage value (Exh. CEL-6, at 68). While the Department recognizes that significant costs are incurred in the removal of this type of plant, we are not persuaded that the limited recent salvage experience reported by the Company in Exhibit CEL-6 justifies the proposed revision. Accordingly, the Department rejects the Company's revisions and directs Cambridge to maintain a negative 10 percent net salvage value for Account 367, producing

an accrual rate of 2.98 percent.

iv. Accounts 370 (Meter Equipment and Installations)

The Company proposed to retain the existing ASL and dispersion curves for the two subaccounts found in Account 370, specifically subaccounts 370.71 (Meters) and 370.72 (Installations), but advocated a revision in the net salvage value for Account 370.71 from zero percent to a negative 15 percent (Exh. CEL-5, at IV-12). As a result, Cambridge proposed a composite depreciation accrual rate for Account 370 of 4.14 percent (id.).

The analytical results of the Company's salvage analysis indicated a negative net salvage value of 41.99 percent (Exh. CEL-6, at 68). The record demonstrates that, while positive salvage values for meters were achieved in the past, there is no longer a market for such equipment (id.). The Department finds that the Company has properly interpreted the results of its statistical analysis and accepts the proposed accrual rate for these two subaccounts.

v. Account 373 (Street Lighting and Signal Systems)

There are four subaccounts in Account 373 (Exh. CEL-5, at IV-12). The Company proposed, in addition to changes to the ASL and dispersion curves, to: (1) revise the salvage values for Accounts 373.71 (Equipment) and 373.73 (Overhead Conductors) from a negative 15 percent to a negative 25 percent; (2) change the salvage value for Account 373.74 (Underground Conduits) from a negative ten percent to a negative 15 percent; and (3) change the salvage value for Account 373.75 (Underground Conductors) from a negative five percent to a negative 20 percent (id. at IV-13; Exh. AG-139 (1988 Study) at IV-14-15). The

resulting composite accrual rate for this account is 6.63 percent (id.).

The analytical results of the Company's salvage analysis indicated a negative net salvage value of 32.54 percent (Exh. CEL-6, at 68). The Company claims that it took this recent salvage history into account when deriving its revised salvage values (Exh. CEL-5, at IV-13).

The Company applied the same salvage values for Accounts 373.74 and 373.75 as for the similar Accounts 366 (Underground Conduit) and 367 (Underground Conductors) (Exh. CEL-5, at IV-13). While the Department accepts the changes in salvage values proposed for Accounts 373.74 and 373.75, we find that there is no basis in the record to support the Company's selection of salvage values for Account 373.71 or 373.73. Accordingly, Cambridge is directed to maintain the existing salvage value of negative 15 percent for these accounts, producing an accrual rate of 6.43 percent for Account 373.71 and 5.81 percent for Account 373.73.

d. Application of Results

The purpose of a depreciation study is to develop accrual rates that are then applied to plant balances. The Department finds that it is not inconsistent to apply the accrual rates developed from a plant balance as of a specific date to those plant balances in service on a different date, provided there are no significant changes in plant composition in the intervening period. The Department finds that the changes in the composition of the Company's plant between December 31, 1991 and June 30, 1992 do not materially affect the validity of the depreciation study's accrual rates. The Department concurs with the Company that the results of the depreciation study may be applied to test-year end plant.

#### 4. Conclusion

In order to calculate the annual depreciation amounts based on the new average service lives that the Department has determined for Accounts 361, 366.72, 367, 373.71 and 373.73, the Department has used the depreciation accrual rates as determined supra for these stated accounts to adjust the Company's calculations as presented in Exhibit CEL-9, Schedule 29. Based on this analysis, the Department finds that the Company's annual depreciation expense is \$3,779,946, rather than the \$3,870,946 proposed by Cambridge. Accordingly, the Company's proposed cost of service shall be reduced by \$91,245.

#### C. Affiliate Transactions

##### 1. Service Company Charges

##### a. The Company's Proposal

The Company has included \$3,514,669 in adjusted test year expenses from the Services Company in its cost of service (Exh. CEL-9, Sch. 7). Cambridge states that the Services Company provides various executive, financial, and management services to the Company including auditing, general accounting, rate design, treasury, legal services, and mainframe computer applications such as customer billing, plant records, accounts payable, and employee information systems (Exh. CEL-8, at 17).

The Services Company charges are either directly assigned or allocated to the system operating companies (Cambridge, Commonwealth Electric, Commonwealth Gas, Canal, and the Steam Company). Direct charges are for costs incurred specifically on behalf of a particular operating company. Allocated charges reflect costs which cannot be assigned directly to any specific company and are thus allocated on the basis of various allocators.

Cambridge Electric Light Company  
Department of Telecommunications and Energy  
D.T.E. 04-65  
Information Request: **City 1-5**  
December 13, 2004  
Respondent: Christine L. Vaughan

Information Request City 1-5

Please provide the average gross plant balance for streetlights for each year 1942 through 2002.

Response

The Company calculates the average gross plant balance by adding the year-beginning and year-end gross investment and dividing by two. Please refer to Attachment City-1-5 for the requested calculation.

Year	Additions [1]	Retirements [2]	Transfers [3]	Adjustment [4]	Balance [5]	Average Balance
Beginning Balance					376,009	
1942	2,017	(2,979)			375,048	375,528
1943	1,907	(14,513)		(1,036)	361,406	368,227
1944	3,542	(2,943)		31	362,036	361,721
1945	3,152	(3,528)		262	361,922	361,979
1946	14,515	(7,941)		(1,353)	367,144	364,533
1947	53,139	(26,256)		52	394,079	380,612
1948	19,653	(11,840)			401,892	397,986
1949	46,954	(23,882)			424,964	413,428
1950	11,550	(5,015)			431,499	428,231
1951	17,436	(7,409)			441,526	436,512
1952	9,066	(3,914)			446,677	444,102
1953	22,698	(6,880)			462,496	454,587
1954	9,154	(4,062)			467,588	465,042
1955	11,695	(5,507)			473,777	470,682
1956	8,584	(2,536)			479,825	476,801
1957	5,220	(2,789)	(171,432)		310,823	395,324
1958	40,456	(4,314)			346,965	328,894
1959	36,624	(21,227)			362,362	354,664
1960	62,238	(17,972)			406,628	384,495
1961	20,861	(8,262)	26,707		445,933	426,281
1962	94,215	(28,278)	(541)		511,329	478,631
1963	64,025	(27,539)			547,815	529,572
1964	48,324	(19,182)	(314)		576,643	562,229
1965	127,949	(38,570)	(139)		665,884	621,264
1966	64,709	(16,589)			714,004	689,944
1967	116,319	(57,960)			772,363	743,184
1968	224,190	(102,473)	(29)		894,051	833,207
1969	68,046	(31,498)	(2,470)		928,130	911,090
1970	241,914	(78,484)	46	62	1,091,668	1,009,899
1971	94,239	(37,271)	(126)		1,148,510	1,120,089
1972	130,277	(83,486)	(170)		1,195,131	1,171,820
1973	61,329	(31,642)		(162)	1,224,656	1,209,893
1974	49,566	(23,357)		(103)	1,250,762	1,237,709
1975	60,338	(45,976)	(133)		1,264,991	1,257,876
1976	110,149	(43,468)	165,321	98,890	1,595,883	1,430,437
1977	43,625	(19,662)	(377)		1,619,469	1,607,676
1978	70,497	(26,493)			1,663,473	1,641,471
1979	59,088	(22,921)	(6,402)		1,693,238	1,678,355
1980	49,798	(20,250)			1,722,786	1,708,012
1981	76,333	(29,361)	(179)		1,769,579	1,746,182
1982	214,686	(64,353)			1,919,912	1,844,745
1983	157,247	(40,634)	(747)		2,035,778	1,977,845
1984	157,446	(85,224)			2,108,000	2,071,889
1985	161,893	(107,586)			2,162,307	2,135,153
1986	186,883	(83,641)			2,265,549	2,213,928
1987	145,342	(84,803)	(26)		2,326,062	2,295,805
1988	134,227	(80,141)	(1,073)		2,379,075	2,352,568
1989	205,261	(93,270)			2,491,066	2,435,070
1990	395,165	(240,002)	(5,259)		2,640,970	2,566,018
1991	418,094	(265,551)	(199)		2,793,314	2,717,142
1992	400,369	(200,499)	736		2,993,920	2,893,617
1993	303,602	(186,710)			3,110,812	3,052,366
1994	286,349	(102,560)	735		3,295,336	3,203,074
1995	124,454	(97,501)	1,140		3,323,429	3,309,382
1996	293,339	(84,166)			3,532,602	3,428,015
1997	258,436	(95,372)			3,695,666	3,614,134
1998	107,512	(89,988)			3,713,190	3,704,428
1999	100,318	(61,105)			3,752,403	3,732,796
2000	68,432	(33,293)			3,787,542	3,769,972
2001	7,567	(1,754)			3,793,355	3,790,448
2002	6,528	(4,182)			3,795,701	3,794,528